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U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION II
Emergency and Remedial Response Division
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MEMORANDUM

TO: Sarah Flanagan
ORC/New Jersey Superfund Branch

FROM: Michael Sivak, Risk Assessor
ERRD/PSB/Technical Support Team

DATE: February 13, 2006

RE: Bayonne Barrel and Drum Site
Remedial Action Selection Report
December 22, 2005

I have reviewed the above referenced report and offer the following comments:

General Comments:

1. The document presents a residual risk assessment, which quantifies the risks and hazards that are expected to remain once the removal action is completed. Although revisions to the human health risk assessment (HHRA) are necessary, the conclusions suggest that the residual risks are below EPA's acceptable risk range. However, these conclusions are only valid when the engineering and institutional controls are in place and maintained. If any of the engineering or institutional controls is not maintained properly, the conclusions of the HHRA are not valid and any risks posed by the site would be unknown.

2. The removal action will include both a cap with some level of impermeability such as asphalt and buildings, and a soil cover, which typically does not preclude the migration of contaminants to groundwater through rain infiltration. For soils that are likely to be outside of the cap area and covered only with clean soil, it is unclear if the contaminants that will remain will be at levels which are protective of groundwater. Please confirm that this fate and transport scenario has been adequately evaluated.

Specific Comments:

1. Page iii: The first paragraph states that screening of contaminants for inclusion in the HHRA involved a comparison of average soil and groundwater concentrations to New Jersey soil clean-up criteria and Class IIA groundwater criteria, respectively. This is not consistent with the EPA Region 2 process to screen for contaminants of potential concern (COPCs), which involves comparing the maximum detected concentration to the EPA Region 9 Preliminary Remediation Goals for soil and tap water, adjusted to a

hazard quotient of 0.1 or an excess lifetime cancer risk of 10^{-6}. First, the screening criteria are incorrect; screening must be completed using the EPA values. Second, the purpose of using the maximum detected concentration, rather than the mean concentration, is to ensure that contaminants are not prematurely screened out. The risk assessment process evaluates cumulative risk and hazard to all contaminants, not simply comparing one contaminant concentration against a screening value set at a hazard quotient of 1. The conservative screening process ensures that exposure to multiple contaminants that act on the same target organ or through the same mode of action do not exceed EPA's acceptable levels of risk as defined in the NCP. It may be possible to reconcile this issue without rescreening each contaminant and recalculating all risks and hazards. It is recommended that Quest meet with EPA to discuss possible ways to address this concern.

2. Page 9: In the table in Section 3.3, the mean and upperbound concentrations for PCBs and dioxins/furans are listed, and referenced to Table 7b, which also includes the maximum detected concentrations of PCBs and dioxins/furans that will remain once the removal action is complete. The maximum detected concentration of PCBs which will remain onsite is 454 mg/kg and the maximum detected concentration of dioxins/furans is 86 ug/kg. Please provide a map showing the locations of these detections to ensure that they will be under the cap, and not merely under a soil cover.

3. Page 9: The second and third bullets in Section 3.4 state that the groundwater screening for COPCs involves comparing the average concentration to the New Jersey Class IIA criteria and New Jersey soil screening criteria. As previously stated, this is not consistent with the EPA Region 2 process, as it does not ensure that exposure to multiple contaminants would result in risks or hazards within the acceptable risk range. Please see Specific Comment 1.

4. Page 9: The fourth bullet in Section 3.4 states that COPC screening included a comparison to regional background concentrations. This is inconsistent with EPA guidance on background, "Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites" (EPA 540-R-01-003, 2002). EPA recommends that background should not be used to screen out COPCs, but rather background risks and hazards should be quantified and discussed in the uncertainty discussion relative to the onsite risks. Please include discussion on what the background risks are when compared to the onsite risks.

5. Page 10: In the first paragraph after the bullets in Section 3.4.2, please revise the term "COCs" to COPCs."

6. Page 10: Section 3.4.2 states that total petroleum hydrocarbons (TPH) were not evaluated in the FRA due to the absence of risk-based criteria. Please verify that no State ARARs exist for TPH.

7. Page 11: Section 4.2.1 discusses the exposure scenario for the pipeline inspector/repair worker. The exposure frequency and duration is presented as once every 15 years for 4 days, and the reference provided is consultation with the pipeline owner, Williams Transco and PSE&G. These values, however, are based on best professional judgment. Please include a discussion in the uncertainty section that presents a range of risks if the frequency and duration were higher. For example, if some event should occur to increase the frequency to once every 5 years, that would triple the frequency and the risk or hazard. Even with this higher frequency, all of the estimated risks and hazards as presented in Tables 10 and 11 are within or below EPA's acceptable risk ranges. This additional discussion will allow the risk manager to evaluate the removal action with confidence that even under higher exposure conditions than are expected, the residual risks are within acceptable levels.

8. Page 15: The discussion of the soil to skin adherence factor (SSAF) states that an upperbound (95^{th} percentile) value was used in the estimates. Please note that EPA's guidance for dermal risk assessment recommends (in Section 3.2.2.3) selecting a mean SSAF from a high contact activity, rather than an upperbound SSAF from a low contact activity. The mean SSAF for utility workers is 0.2 mg/cm^2, while the value used in the risk assessment is 0.3 mg/cm^2. Therefore, the risks and hazards for dermal exposure to soil as presented in the report may be biased high; the uncertainty discussion should acknowledge this.

9. Page 17: The last paragraph on this page discusses the issue of carcinogenity of chemicals. Please note that as of April 2005, EPA has updated its cancer guidelines, which can be found at: http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=116283. The text should acknowledge these new guidelines, as well as providing the new descriptors, "Likely to be Carcinogenic to Humans", Suggestive Evidence of Carcinogenic Potential", "Inadequate Information to Assess Carcinogenic Potential", and "Not Likely to be Carcinogenic to Humans".

10. Page 18: The hierarchy of toxicity information has been updated with OSWER Directive #9285.7-53, "Human Health Toxicity Values in Superfund Risk Assessments", which is available at: http://www.epa.gov/oswer/riskassessment/pdf/hhmemo.pdf. This directive presents the sources for toxicity information as IRIS, the Provisional Peer-Review Toxicity Value (PPRTV) database, and other values as recommended by NCEA (which may include ATSDR values, HEAST or state values, but on a chemical by chemical basis). Please revise the text and toxicity values accordingly. For further information, or to request toxicity values from the PPRTV database, please contact an EPA Region 2 risk assessor.

11. Page 26: In the discussions of COPCs that exceed screening criteria, please include the concentrations of those samples that exceeded the screen. This will be helpful when evaluating the appropriateness of discounting these chemicals from further evaluation.

12. Page 24: In the Uncertainty discussion, please include a section that presents the uncertainty associated with the assumption that the conclusions of the FRA are only valid if the engineering and institutional controls are implemented and maintained. For example, all soil caps or soil covers must be inspected and maintained to ensure that no exposure pathways exist now or in the future, and the CEA must be re-evaluated regularly to ensure that it is in place for as long as groundwater concentrations exceed MCLs or groundwater quality standards.

13. Page 27: In the first bullet, please correct the spelling of "respectively".

14. Page 28: In Section 7.4, please include a discussion of the uncertainty associated with the toxicity of dioxins. EPA suggests: "The toxicity of dioxins is currently under review by EPA and is being peer-reviewed by the National Academy of Sciences. The actual risks from exposure to dioxins may be higher than the estimated values present, but are not likely to exceed EPA's acceptable risk range."

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